Soil Erosion and Recovery

Fires have many effects on the land, vegetation, and wildlife. Soil is affected by fires in many ways. The first effect occurs during the fire. Organic matter on the soil surface and in the soil is superheated and destroyed by very hot fires. This results in a chemical reaction causing a hydrophobic (water repellant) layer at the soil surface.

Since the water can't penetrate into the soil, the ash lying on top of this surface is easily eroded by rainfall. If rainfall is heavy, the resulting overland flow of water moving downhill and concentrating in low areas develops enough energy to break through the hydrophobic layer and form gullies that erode the soil and carry it into stream channels. This can cause alterations of stream channels and be devastating to fisheries. These October 10, 2002, photos show sediment deposited by overland flow. Rills (small gullies) are also present but not easily visible in the photos. Most of this occurred after a fairly intense thunderstorm in mid-July, several weeks after the East Fork Fire burned through this area. Fortunately, woody debris in the small stream channel downhill from this site trapped much of the sediment and prevented large gullies from forming.

Cutthroat Trout

The photo above shows fall foliage of young aspen in an area burned by the Lily Lake Fire of 1980. This photo was taken in 2003 from a spot near the cattleguard on the road leading to this trailhead. The Lily Lake Fire burned with severity similar to the East Fork Fire of 2002. Soil erosion on the Lily Lake Burn is now at a low level, similar to what existed prior to the fire. Soils and vegetation damaged by the East Fork Fire will also gradually become stable and productive. Wildlife and aquatic resources that depend on this productivity will recover as well.

End of Interpretive Displays